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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,663	01/07/2002	Xiang-Dong Mi	83075NAB	6173

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,663

Applicant(s)

MI ET AL.

Examiner

Tarifur R Chowdhury

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-99 is/are pending in the application.
- 4a) Of the above claim(s) 26-32, 39-42, 53 and 54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-8, 11-14, 17-20, 23, 25, 33, 34, 36-38, 43-45, 48, 50-52, 55, 56 and 59-99 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 9, 10, 15, 16, 21, 22, 24, 35, 36, 46, 47, 49, 57 and 58 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 26-32, 39-42, 53 and 54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 3, 4, 9, 10, 15, 16, 21, 22, 35, 36, 46 and 47 are objected to because of the following informalities:

In claims 3, 4, 9, 10, 15, 16, 21, 22, 35, 36, 46 and 47 "the sub-wavelength wires" lacks antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 6, 7, 12, 13, 18, 19, 25, 33, 38, 43, 44, 50-52, 55, 60-64, 66-90, 92-94, and 96-99 are rejected under 35 U.S.C. 102(e) as being anticipated by Silverstein et al., (Silverstein), US 2003/0072079.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Silverstein discloses (specially in page 5, paragraph 0039) and shows in Fig. 4, a modulation optical system which is a portion of an electronic projection system comprising:

- (a) a light source (not shown) for forming a beam of light (320);
- (b) a pre-polarizer (330) for polarizing the beam of light (320) to provide a polarized beam of light;
- (c) a wire grid polarization beam splitter (340) for receiving the polarized beam of light, for transmitting the polarized beam of light having a first polarization, and for reflecting the polarized beam of light having a second polarization;

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(d) a reflective liquid crystal device (310) for selectively modulating the polarized beam of light having a first polarization to encode image data thereon in order to form a modulated beam, and for reflecting the modulated beam back to the wire grid polarization beam splitter;

(e) a compensator (360), located between the wire grid polarization beam splitter and the reflective liquid crystal device, for conditioning oblique and skew rays of the modulated beam to provide a compensated modulated beam;

(f) wherein the wire grid polarization beam splitter reflects the compensated modulated beam;

(g) a polarization analyzer (370) which removes residual light of the opposite polarization; and

(h) image-forming optics for forming an image from the compensated modulated beam.

Silverstein also discloses the use of a wire grid polarizer as the pre-polarizer (page 5, paragraph 0042) and polarizer-analyzer and that an optional compensator (365). Silverstein further discloses and shows in Fig. 4 that sub-wavelength wires (350) on the wire grid polarization beamsplitter face the reflective liquid crystal device (310). Silverstein further shows that the optical system further comprising a recombination prism (380) for combining the image bearing color light beams corresponding to each of the color beam of lights, into a full color image bearing beam and a projection lens for projecting the full color image bearing beam onto the display surface and wherein the pre-polarizer and the polarization analyzer in any of the optical modulation optical

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systems corresponding to a given color have different polarization properties from one another.

Accordingly, claims 1, 6, 7, 12, 13, 18, 19, 25, 33, 38, 44, 50, 51, 52, 55, 60-64, 66-90, 92-94, and 96-99 are anticipated.

As to claim 43, the method for projecting an image generated from image data is merely a list of forming each element and each element must be formed to make the device, the method would be inherent to the device.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. **Claims 2, 5, 8, 11, 14, 17, 20, 23, 34, 37, 45, 48, 56, 59, 91 and 95 are rejected under 35 U.S.C. 103(a) as being obvious over Silverstein.**

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The applied reference has a common assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

As to claims 2, 8, 14, 20, 34, 45 and 56 using a compensator that includes one or more birefringent layers comprising at least one of A-plate, a C-plate, or a biaxial film is common and known in the art and thus would have been obvious to improve field angle dependency of the display device.

As to claims 5, 11, 17, 23, 37, 48, 59, 91 and 95, using a liquid crystal display device comprised of a vertically aligned liquid crystal molecules is common and known

in the art and thus would have been obvious to improve viewing angle characteristics of the display.

Allowable Subject Matter

10. Claims 3, 4, 9, 10, 15, 16, 21, 22, 24, 35, 36, 46, 47, 49, 57 and 58 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

TRC
November 26, 2003


T. Chowdhury
Primary Examiner
Technology Center 2800